GE RR SERIES RELAYS HAVE SERVED as the heart of low voltage lighting controls for over 40 years. The basic power switching device, the relay serves as the foundation of a building's lighting control solution.

GE's Remote Control panels and frames are configured for either RR7P or RR9P relays with a five-pin female connector. The user can simply remove a knockout in the low voltage barrier, snap the relay into place, and plug it onto the interconnect board.

RR7P Operation
Each relay employs a split low-voltage (24V) coil to move the line voltage contact armature to the ON (OFF) latched position. As illustrated on the opposite page for the RR7P, the ON coil moves the armature to the left when a 24 volt control signal is impressed across its leads. The armature latches in the ON position and will remain there until the OFF coil is energized.

This operation provides several key control features:
- **Positive action.** The relay always goes to the state commanded. For example, multiple OFF commands will keep the contacts in the OFF position.
- **Stable operation.** Since the relay latches in the ON or OFF position, power outages do not result in a change of state.
- **Minimal power consumption.** Control power is only required when the relay changes state.
- **Ability to support multiple input devices.** After the relay responds to a momentary pulse, it is then “free” to accept another pulse from any other control devices wired to it. The relay position is always controlled by the last signal.

RR9P Operation
The RR9P includes an auxiliary contact on the low-voltage side of the armature to provide status indication for pilot light switches or indicator lights for remote annunciation of lighting status. It is also used to provide status information to more highly automated GE TLC systems (refer to page 3 for overviews of other systems).

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Description</th>
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<tbody>
<tr>
<td>RR7P</td>
<td>Standard 3-wire relay with 5-pin connector</td>
</tr>
<tr>
<td>RR8P</td>
<td>Isolated pilot contact 5-wire relay with 5-pin connector</td>
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The RR7P and RR9P relays are designed for simple connection to TLC panels. Other relay wire terminations are available, including:
- **RR7** Standard 3-wire relay with stripped leads
- **RR8** Pilot contact 4-wire relay with stripped leads
- **RR9** Isolated pilot contact 5-wire relay with stripped leads
- **RR7EZ** Standard 3-wire relay with spade terminals
- **RR8EZ** Pilot contact 4-wire relay with spade terminals
- **RR9EZ** Isolated pilot contact 5-wire relay with spade terminals
Specifications
UL Listed, CSA Certified
Mounts in standard ½” KO, .865”-.875” diameter, 14 or 16 gauge material
Operates in any position

Rated Capacity
Lamp Load - 20 A Tungsten filament 125 VAC
20 A Ballast 277 VAC, 347 VAC Canadian
Resistive Load - 20 A 277 VAC, 347 VAC Canadian
Motor Load - 1½Hp @ 110-125 VAC
1½Hp @ 220 - 277 VAC

Operating Environment
Temperature - 0 to 60°C (32 to 140°F)
Relative Humidity - 10 to 95% RH, non-condensing
Atmosphere - Non-explosive, non-corrosive
Vibration - Stationary applications NEMA Level A

Endurance
50,000 cycles, full load
100,000 cycles, no load

Line-Voltage Characteristics
Contacts - SPST maintained (mechanical latching)
Terminals - 2 Terminals
2 Back-wiring holes per terminal
Feedthrough wiring
Screw actuated clamps for use with #14-10 AWG solid or stranded copper wire only.

Low-Voltage Characteristics
Split Coil – ½ for “ON”, ½ for “OFF”
Compatible with standard interface/drivers, ULN-2003A Darlington transistor arrays
Operating Voltage – Nominal
24-28 VAC (±10%) Rectified (Minimum at relay = 21 VAC rectified)
30-38 VDC (±10%) Filtered
Note: Do not use DC with pilot or locator switches
Duty Rating - Momentary
Minimum Activating Pulse Time – 50 Milliseconds
Coil Impedance – 75-85 Ohms at 60 Hz Unrectified
55-60 Ohms DC Resistance
Pilot Contact – 1 A 24-29 VAC Resistive

Important Considerations and Restrictions
Relays connected in parallel - Two or more relays connected in parallel, by grouping red leads and black leads, will operate together. The maximum number of relays connected in parallel is determined by the capacity of the power supply and the switch lead lengths. (See the table on page 13)

Pilot contacts connected in parallel - If the yellow switch connections for a group of RR9P relays are paralleled, any relay ON in the group will turn the pilot lighted switch ON.
Caution:
1. Do NOT use these relays to switch DC loads. This will damage the power contacts.
2. For proper pilot light operation, use only half-wave rectified AC voltage for relay control.

RR7P RELAY OPERATION

RR9P RELAY OPERATION

TYPICAL ELECTRONIC DRIVER CIRCUIT ULN-2003A

RELAY DIMENSIONS

5-PIN PLUG-IN CONNECTOR
PIN 1 – YELLOW
PIN 2 – BLACK
PIN 3 – BLUE
PIN 4 – RED
PIN 5 – BLUE